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NEW YORK, SATURDAY, MAY 1, 1926

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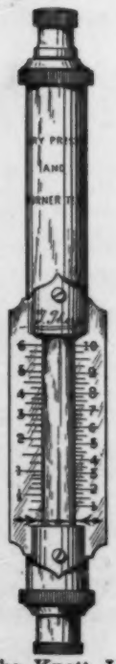

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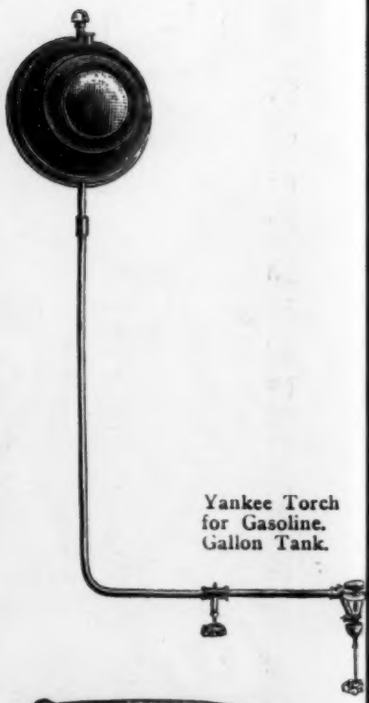

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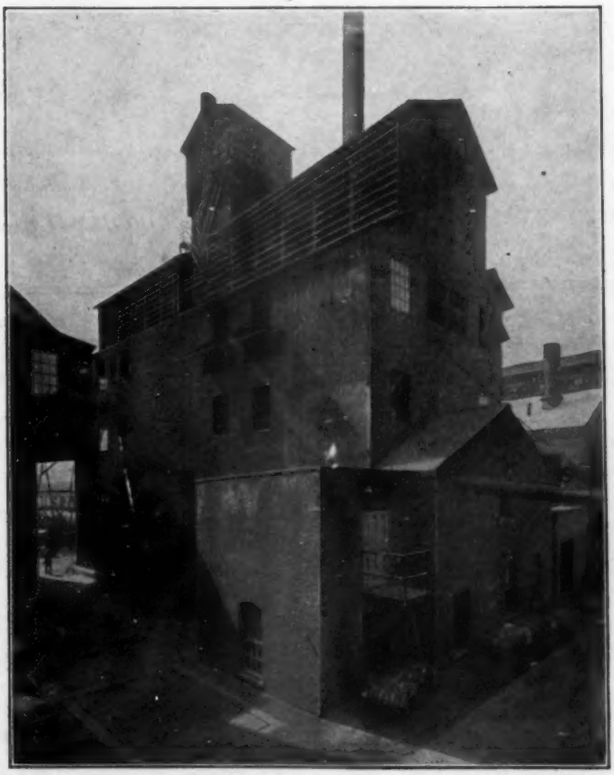

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SIXTY-SEVENTH YEAR

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AMERICAN
GAS JOURNAL

Established 1859—Pioneer of the Gas Industry

Vol. 124. No. 18. NEW YORK, MAY 1, 1926 Whole No. 3574

Fuel of the Future--What Shall It Be?

XXXI. Heating operations in the non-ferrous metals industry

Ismar Ginsberg

THERE have now been published quite a few articles on the subject of the use of heat in the non-ferrous metals industry. The various forms of heat used have been discussed, as well as the manner in which the fuels are used. It has been pointed out that the non-ferrous metals industries, which include the brasses and the bronzes as well as copper, aluminum and other similar metals, consume large amounts of fuel. There are many plants which carry out such operations as come under the general head of non-ferrous metals melting, and the opportunities for selling gas to this industry are very numerous. For it must be remembered that brass melting or bronze melting is not carried out only by plants that specialize in this field, that is, by those that have castings of these metals to sell, such as pipe fittings, parts of furniture and the like, but also by a great many other plants, that make or assemble complicated machines and manufactured equipment of one sort or another in which certain parts are made of brass, bronze and similar metals. Thus, take for example an automobile plant. This may well employ furnaces for melting non-ferrous metals to be made into castings of one sort or another to be used in the manufacture of automobile parts. Another good example is found in the electrical industry. There are large manufacturers of electrical equipment, such as motors, generators, and the like, that are known to make their own brass and bronze castings. They use melting furnaces, and are prospects for the introduction of gaseous fuel, just as much as hosts of other plants which are not engaged primarily in the manufacture of brass articles or specialties.

Gas In An Electric Plant

In this connection, it may be mentioned that the largest electrical manufacturing concern in the country is now employing furnaces, fired with gas, in their foundry. The non-ferrous metals are now being melted by the aid of heat generated by the combustion of gas. This is indeed a real commentary on the progress made by gas along industrial lines and particularly in the brass melting industry. It brings out one very important point and that is that electricity is not a real competitor of gas in the industrial field. By this we mean that the field of electricity is limited to lighting and power and that it really has no place in the heating field at all. Electricity, to be sure, can be used to produce heat and there may be a very limited number of cases where it must be used, particularly in the electrochemical industries, but it is far too expensive a form of energy to be employed for industrial heating operations. Gas is the logical fuel for these purposes, for not only does it possess all of the advantages of electricity, such as ease of control, uniformity of heating and the like, but it also possesses the advantage of being less costly. Gas, as far as electricity is concerned at any rate, is in the position of the low cost producer in the competitive heating field.

The Cost Question

It has been said a number of times that to sell gas for industrial purposes, it is essential to emphasize the great benefits that are to be derived from this fuel and to lay as little stress as possible on the cost. Gas is the quality fuel compared with coal and oil. It costs more, and hence the matter of cost must not be gone into at the very start when talking with a prospective customer, but all efforts must be concentrated on getting him to understand the advantages which he will gain from the use of gaseous fuel. Then, when he is sold on that phase of the problem, it is safe to show him the costs and prove

to him that the benefits gained will more than counterbalance the added expense of using gaseous fuel.

It is true that a great deal of business has been obtained by this method of selling, and it is also true that the industrial gas engineer and salesman has at times no choice in the matter. He either sells the customer on that basis or he does not sell him at all. But it is also true that very often it is possible for gaseous fuel to prove to be the cheaper fuel in spite of its higher unit cost per B.t.u. There are many interesting cases which have come to the notice of gas engineers, and perhaps one of the most interesting is one that came to the attention of the writer.

Where Gas Was Cheaper Than Hard Coal

It happens that this case is right in the brass melting field, that is just where one would not perhaps expect it to occur. But it is a fact that a brass melting plant in an Eastern State found that it was cheaper to use gas than anthracite coal. The reason for this has been not only due to the fact that coal has been higher than usual in the past years, but also a certain operating condition. A number of heats or melts are taken from each fire built in the furnace, which means merely that a number of batches of metal are melted in one and the same fire. Of course, while it is possible to gauge somewhat the amount of coal to add to the fire, so that it lasts for the desired number of heats, it is never possible to adjust the addition of the hard coal or any other solid fuel so accurately that there will not be some fuel left over at the end of the last heat. It is this fact that made the consumption of hard coal so high that gas was able to show a greater economy on the mere cost and fuel consumption basis. When gas is used, the consumption of gas stops just as soon as the last heat is drawn out of the furnace, merely by turning off the gas supply.

The Lesson Gained

This case is cited just to show the industrial gas engineer that he is liable to meet with any kind of conditions in the industrial plant, and that he has a fuel, which possesses such important intrinsic advantages, that it can be employed with greater economy and efficiency under any conditions. It can meet most any difficult problem and solve it satisfactorily, and the mere fact that it costs more per unit of potential heat energy is not a consideration in any sense of the word. It must be emphasized again that it is not the amount of heat which is purchased per unit weight or volume of fuel in the original state that is important, but rather the amount of heat that can be efficiently and economically obtained in the combustion of the fuel that is the significant item. When fuels are compared on this basis in almost any industrial operation, it is generally true that the advantage will always be found to be on the side of gas, in spite of its greater cost. Hence, the industrial gas engineer, who is discouraged by the mere higher cost of the gaseous fuel, is really not conversant with the properties and characteristics of his product and of the results that have been obtained, just like the one described above, with the use of gaseous fuel in actual industrial heating operations.

What the Electric Furnaces Offer

It is true that when the good points of one's competitor are known, it is relatively easy to see what we ourselves must do in order either to attain the same status as our competitor or even a more advantageous one. Thus, the electric furnace has been perhaps the more serious competitor of gaseous fuel in the non-ferrous metal industries, and solely for the reason that the electrical industry has developed a very efficient apparatus for the use of its fuel. The question naturally is what does the electric furnace offer to the brass melter, for example, and what can the gas industry offer in place of the electric furnace which is just as efficient as the latter, if not more so.

The electric furnace has enjoyed great popularity in the yellow brass field, and particularly in the New England States. The greatest objection to the electric furnace has been the cost of the fuel. This condition in fact applies to every case in which electricity is used as a fuel. The nature of the electric rate makes it necessary to operate the furnace all day long in order to take advantage of any saving that can be gained from it. The electric yellow brass melting furnace melts the metal very rapidly and the consumption of electricity is moderate, usually around 250 to 275 kilowatt hours per ton of yellow brass. But it is a fact that when all the costs are reckoned up, the total cost is far in excess of $2.50 a ton, which would be the cost of 250 kilowatt hours at a unit price of one cent per kilowatt hour.

The Answer to the Electric Furnace

As far as the talking points of the electric furnace are concerned, the main ones used are its quick melting, low loss and better metal. One very great disadvantage is the high initial cost. As far as quick melting is concerned, there may be some question as to whether or not the gas-fired furnace will give quicker results than the electric, but under ordinary circumstances the gas flame will melt the metal more quickly than electricity. As far as losses of metal and better metal are concerned, there is no question but that the properly-designed gas furnace will give as good, if not better results, than the electric furnace. Added to this there is the fact that gas is the cheaper of the two fuels. Thus, it must be evident that the advantage lies on the side of gas, and there should be nothing to stand in the way of gas progress in the industrial field excepting the lack of properly designed furnaces and ovens in which the industrial operations can be carried out under the proper conditions so as to allow all the intrinsic advantages of the gaseous fuel to factor in the operation. Fortunately the situation is now much more favorable in this light than it has ever

been before, and there are now available furnaces, specially designed for gaseous fuel, which are just as efficient as any oil, coal, or electric furnace.

Characteristics of Some Electric Furnaces

It will be well to continue our examination of electric furnaces employed in the brass field. There is one type of electric furnace, which is used for brass melting which has one serious disadvantage that is not possessed by the gas-fired furnace. This type of furnace cannot be started with cold metal and for this reason an auxiliary method of heating must be provided for, so as to prime the furnace before it can be operated. Thus, a small batch of metal is allowed to remain in the furnace over night, over week ends and holidays, and the current must be kept turned on during that time so that the metal is maintained in the molten condition. This is sometimes done, but it is generally found that the power cost is too high, and this is of course an item that cannot be overlooked, especially in that the unit cost per British Thermal Unit is high enough for ordinary operations in the electric furnace, without using the current for keeping the metal molten during the night. Hence, it is necessary to use auxiliary heating means, when the furnace is started with cold metal, and this is both a nuisance and an extra expense. This same type of furnace does not employ a crucible but a specially formed lining, the life of which is anything but satisfactory. This fact, while it does not influence so much the use of the furnace in the yellow brass melting field, nevertheless renders its use most unsatisfactory in the melting of other metals with higher melting temperatures.

Nature of the Lining

The nature of the lining is such as to make its use very precarious and its replacement is beset with all sorts of difficulties. It is formed of a mixture of fireclay and water glass. It is not possible to use enough of the latter to make a mixture that shapes very easily, for the more silicate of soda (water glass), that is present in the mixture, the lower its fusion temperature and the more limited its use. Therefore, the silicate of soda is used very sparingly and this makes it necessary to allow the mixture, shaped in the proper form, to stand for several weeks or months before being used. This is necessarily a tedious, slow and costly process.

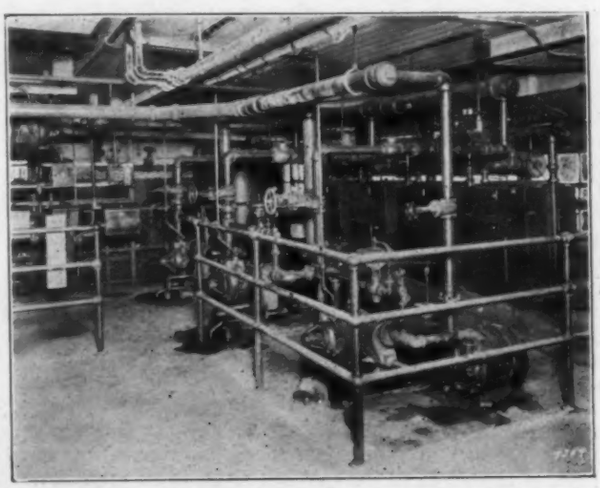
It is a fact, however, that the quality of the yellow brass that is made with the aid of this furnace is very high. The brass can be rolled and bent without going through the process known as "season cracking." The brass, that is made with the old-fashioned coal or coke fire, does not possess these advantageous properties. However, it is also a fact that when the brass is made in the gas-fired furnace, the results are markedly better than in the case of the coal or coke furnace and in fact comparable in every way with those obtained in the electric furnace brass. It must be explained that "season cracking" is a phenomenon which causes the brass to crack, after it has been standing for some time, in a direction at right angles to the one in which the metal has been rolled. Brass that has been melted in the gas-fired furnace is free from this imperfection.

The Arc Type of Electric Furnace

There is another type of electric furnace in which the current is made to arc between electrodes, thus generating a great deal of heat, which is first used to raise the temperature of the furnace lining. After a sufficiently high temperature has been attained, the metal is added. The metal is melted and then poured and immediately another batch of metal is added. This type of furnace does not rotate but merely oscillates, which is a disadvantage in that the heat is not uniformly distributed. Furthermore, another important disadvantage is that the high heat causes the volatilization of the electrodes and this permits metallic oxides to escape around the stuffing boxes and also allows the aid to enter the furnace. All in all its operation has been highly unsatisfactory. Another weak point of this furnace is the lining. In fact this is the weak link in the chain of any furnace, it might be said. The lining must stand up against the intense heat that is generated in the furnace, and at the same time it must contain certain ingredients, which are not at all heat resistant, but which are added in order to give the composition the required plastic properties, enabling it to be used in making the lining. Then, the user of the lining is really in between the devil and the deep sea. He cannot use too much of the plasticizer for fear of making his lining too liable to destruction by heat, and if he does not use sufficient of the plasticizer, he will not be able to obtain a lining which is elastic and properly constituted.

Heat of Arc Concentrated

In this particular case, the heat of the arc is found to be concentrated at one individual point in the



Compressors and Meter Installation in a Plant Using Gas

lining, or rather the heat is centralized around one spot in the lining, due to the oscillation of the furnace. This soon wears a ring into the lining and the latter gives way there first, necessitating extensive repairs to the apparatus.

It may be said that the arc type of electric melting furnaces, while it may possess important advantages in regard to low fuel consumption and the rapid melting time, nevertheless has not been very popular for the reasons that have been enumerated above. As far as thermal efficiency is concerned in both the arc type and the induction type of electric furnace (the induction type is the first one discussed above), it has been found that it is not what one would expect. In the induction type of furnace it is only fifty per cent. and in the arc type it is about eighty per cent. The low thermal efficiency in the induction type is due to the intrinsic character of the heating operation carried out in that furnace, the need of auxiliary heating means, and so forth, and while the thermal efficiency is greater in the arc type, nevertheless, this type of furnace is subject to too many disadvantages to make this one advantage of any moment.

The Crucible Furnaces

The crucible type of brass melting furnace is the oldest and most popular used in this industry. It is by no means the most efficient furnace, and there are many other disadvantages connected with its use. It will be remembered that it is a furnace that is operated with coal, that is hard coal, or coke. It is an apparatus which suffers from the vagaries of the weather, that is, when it is commonly operated with natural draft. Thus, when the weather is muggy, the draft will not be so good and the fire will not draw. This will of course have a bad effect on a very important factor in the brass melting process, which is the speed of melting. The duration of the melting operation will be prolonged and the output of the furnace will be reduced. This is not the only bad effect, for the longer the metal remains in the furnace, the greater will be the opportunity for incurring losses of metal, and the greater will be these losses. Furthermore, it is also understandable that the labor cost will be higher and in general the operation of the furnace will be entirely unsatisfactory. Of course, the furnace is a cheap one to construct and to maintain, and this applies particularly to the life of the crucible, for it is said that there is no furnace which quite approaches the coal-fired pit furnace for life of crucible. But this, after all, is not the important item in the process and the brass melters who hold that this type of furnace is the cheapest of all in operation are incorrect. The thermal efficiencies, the consumption of fuel, the loss of metal, the high labor cost and the uncertainties of its operation are all disadvantages which do not compensate in any way for the lower per unit price of the fuel, the low cost of maintenance and ease of construction. The pit furnace is by all means an inefficient piece of apparatus and the melting process, carried out in it, is an inefficient process.

Some Figures on the Furnace

Tests have shown that the cost of fuel, hard coal at a unit price of $14.50 per ton, is approximately half a cent per pound of the brass, which has a composition of eighty-five per cent. copper, five per cent zinc, five per cent. lead and five per cent of tin. The number of heats per day of nine hours is three. This is a very low figure, but it is of course possible to increase this figure by using forced draft in the place of natural draft and also by using other fuels in the place of hard coal or coke.

It has been said that the losses of metal in this type of furnace must be necessarily high, due to its poor construction and the long time that the metal remains in it subjected to high temperature. In the case of yellow brass, the losses have at times been as high as eight per cent. and in the case of the alloy, containing eighty-five per cent. of copper and five per cent. each of tin, lead and zinc, the losses have been found to be as high as four per cent. It will of course be understood that the losses of metal will vary according to the zinc content, zinc being the metallic ingredient of the alloy that is most readily volatilized.

Other Metal Losses

There are other ways in which metal values may be lost in the common pit type of furnace employing a crucible. These are not generally considered of importance for the reason that they are not supposed to occur. Nevertheless, an accident can take place at any time, and the most careful worker will sometimes become careless. We refer to the losses of metal, that take place, when the crucible is inadvertently tipped too far in being removed from the furnace with the result that some of the molten contents are poured into the fire in the pit. Then again a crucible may break at any time and the entire contents will then be mixed with the ashes. Of course it is possible to recover some of the metal that is temporarily lost in this manner, but this can be done only at the expense of much effort and labor, and even then the results are not entirely satisfactory for a large part of the metal will remain behind admixed with the ashes in the form of fine shot and spatters. While such ashes have a value, the return does not begin to compensate for the trouble and expenses incurred, such as freight charges, in the handling and transportation.

Other Disadvantages

There are still other disadvantages that make the use of the crucible pit furnace highly undesirable. This type of furnace is very bulky and takes up a lot of room in the foundry. This is always a consideration in the manufacturing plant, for few have more than enough room for their needs, and furthermore, even if they did and there were plenty of room for these furnaces, when it came to a matter of expansion, the large space occupied by them would unquestionably give rise to difficulties. The slow melting is of course a main factor in this connection.

Another disadvantage is that they give up a lot

of heat to the foundry in which they are located. Thus, they make conditions unpleasant for the men in the hot weather. Furthermore, there must always be present in the foundry a heap of real coal ready for feeding into the furnace, and there is generally another of ashes which are taken from these furnaces. These ashes must be removed as they dirty the foundry and are a hindrance to the work being done therein. This entails labor and expense. If the ashes contain metal values, they must be stored until a large enough accumulation is obtained to make it possible economically to ship them away. All this involves an interest charge on investment tied up in a frozen condition. Furthermore, the metal itself, that is the alloy, is often not of good quality when melted in this manner, for in the pit furnace there is plenty of opportunity for the zinc to oxidize. This results in spongy castings, and the oxidation of the zinc is also the chief cause of season cracking.

Conclusion

These facts would appear to make a strong case against the old-fashioned pit type furnace, using a crucible, coal or coke fuel with natural draft. Still, the industrial gas engineer will find many of these furnaces in use at the present time. This analysis is given for the express purpose of acquainting the gas man with the idiosyncrasies of this furnace and indicating to him its disadvantages so that he may be able to bring these facts to the attention of the brass melter.

The Brooklyn "Buy Your Own Home Show"

Brooklyn Union Gas Company has fine exhibit

J. W. Piatt

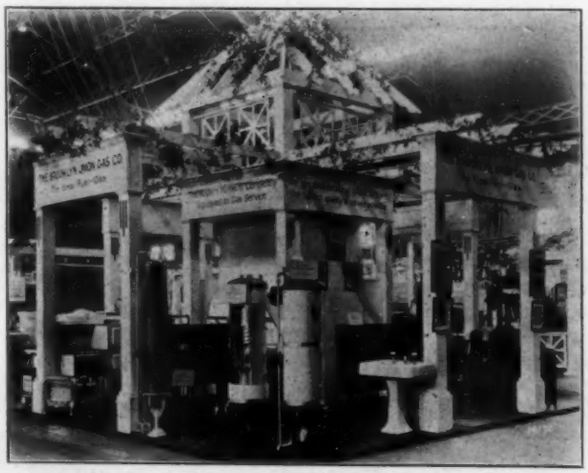
THE Brooklyn "Buy Your Own Home Show" held in the 23rd Regiment Armory, April 5 to 10, inclusive, was in some respects the most pleasing of all exhibitions of this general type ever held in Brooklyn. To persons who have seen many shows of an advertising nature housed in great armories, this one was unusually inspiring. The barrenness of the walls of the vast drill room was hidden behind a comprehensive decorative scheme that left nothing to be desired. The balcony area surmounted a beautifully designed ornamental frieze beneath which were situated many booths showing lovely artistic vistas of landscape scenery which were the actual pictorial representations of suburban localities where building plots are for sale. In one instance a seaside development was shown in pictorial perspective from a boat landing to which was moored a full sized Venetian gondola manned by gondoliers groomed in the style long famous in song and story. From this point one gazed out into the distance at the rising moon over canals and estates of what is to be an American Venice. Throughout the entire show handsome architectural effects and landscape views vied with each other, giving beauty to this show that has not heretofore been seen in these exhibitions.

Idealism in Home Building

Idealism in home building seemed to be the theme of this show and the music was suited to the occasion. One could hardly miss the thrill and romance of the homing instinct that pervaded the atmosphere. Almost all the essentials that are required in a modern home were deftly shown in some striking manner to the best advantage. Nothing was overdone, and the management of the show must be complimented upon the successful methods on which this show was planned and organized.

Along with other home necessities, gan ranges were displayed in many booths. The Brooklyn Union Gas Company was there, representing its portion of the great modern utilities that are requisites of all homes of this twentieth century era.

The display was housed in a quadrangle facing the entrance. Upon this quadrangle, four pergolas



The Exhibit of the Brooklyn Union Gas Company at the Own Your Home Show

were built in the form of a cross, from the center of which rose a latticed tower. Pergolas and tower were clad with twining vines that rambled from rafter to apex of spire.

Details of the Display

In these booths were shown gas ranges, water heaters, room heaters and gas-fired central house heating appliances with regulating devices that act as silent servants in actual operation. In the pergola devoted to parlor utilization of gas, handsome canopied floor lamps and a gas equipped mantel were displayed. Above the mantel an intaglio perspective picture of a generator house and gas works attracted the eye and and gave a vivid representation of how the ideal fuel of this age is produced. One of the corners between the pergolas was devoted to the Home Service Division of The Brooklyn Union Gas Company. Here, a corps of this division wrought wonders in the domestic art of cooking and served the delicacies cooked with gas to the crowds that constantly thronged the adjacent isles. Equally interested were the eager home owners who kept the house heating experts busy explaining the operation of thermostats and the advantages of house heating by gas. All in all, the gas company's part in the show was extremely successful and it is evident that these demonstrations from year to year have created a very friendly feeling for itself among the builders, home owners and the great public who are interested in home building and home owning—one can safely say that includes everybody who attends a "Buy Your Own Home Show."

A Private Audience with Dyspepsia*

Complaints and their answers

Charles W. Person

Secretary, Publicity and Advertising Section, American Gas Association

THE gas industry has never wanted for critics, either from the ranks of the public or from those on its own payrolls.

There has been this striking difference, however. The public's side of the case has been exploited to the point where the phrase "public relations" has almost become a stock one. On the other hand, little if anything has been said or printed, even in our own family circle, about the gas man's case against his own industry.

Just why this is so is not entirely clear. If the gas man has a case against his industry, or thinks he has, evading or sidestepping the issue will accomplish no lasting good. We have nothing to hide. The solution, therefore, as I see it, lies in dragging the grievances and complaints, real or imaginary, from their hiding places out into the open where we can get a good look at them. Fortunately, Iowa offers an ideal setting for this experiment in ventilation. The sun is strong and there is plenty of open space.

Several of my friends in the industry who have known of my intention to write this paper have warned me that if the subject matter to be treated concerns the mental upheavals of a few gas men only, then to combat them would, as it were, be raising some straw man to knock them down. Furthermore, I have been told that the criticisms come from an insignificant minority, reflecting more the individual state of mind than any general impression, and do not have basis enough in fact to command the importance of denial.

An Answer

My answer is best expressed in the words of former President Lowell of Harvard University. In a recent address on public opinion he said:

"In its formation, some men count for more than others, but everyone counts for something, and most men count for more than they are aware. We are too inclined to think that hasty judgments, idle words, careless statements of passing impressions are unimportant; and yet these have a distinct influence on those who hear them. Everyone truly counts to some extent, for, although many people form no opinions of their own, and merely reflect their surroundings, still they have an effect, and may both prevent the spread of right thought and promote a mischievous course. They are a shifting cargo in the ship of state, a peril if the bulkhead breaks."

A Record of Internal Complaints

For six years it has been an edifying and amusing experience to collect and keep a record of what I call internal complaints as distinguished from those

* Delivered at the 1926 Convention of the Iowa District Gas Association.

which emanate from the public. Most of them have originated in Pullman cars, hotel rooms or other places large enough to accommodate comfortably from three to six persons at one sitting. At some of these informal gatherings you will find gas men meeting together to discuss one or more important problems or questions of policy facing the industry. They meet, not to pass sentence on the industry, but to build a better and a more prosperous institution. They do not hesitate to voice complaints, but they back them up with constructive suggestions that have often led to movements of far-reaching consequence to our industry.

An excellent example of this was the meeting, in 1920, which helped to bring into operation the state committees on public utility information. One of our well-known executives describes it as follows:

"No public notice of it was given. Almost surreptitiously some ten or twelve men interested in public utility publicity met in a little room in one of the Chicago hotels, a room just big enough to accommodate them. They didn't know each other. Each man got up and said: 'My name is John Smith from so and so.' They had no program; they had no policy; they were just groping in the dark. That was five years ago.

"Now we pride ourselves upon having made very great advance in the movement and, from a little group of men meeting in a small back room in a hotel, we see today where the movement has assumed such proportions that it is almost monopolizing the program of the American Gas Association."

Another Form of Complaint

Our industry is afflicted with another kind of meeting, however, in which the intent is exactly opposite to the one just cited. It may be described as an excursion into the slough of despond, where complaints fall into the lower order of wails, whinings and growls, brought on spasmodically, it would seem, by one or more of the commoner forms of gastronomical disturbances, or by just plain cussedness.

The most interesting point in the exercises is when someone who wishes his pet opinions made certitudes opens up with the favorite shot, "I'll tell you what's wrong with the gas business." Whereupon, the meeting takes on the character of an inquest, and shortly there is nothing left to do but drag out the bones and bury them.

One of the evils arising out of these caucuses of despair is that hasty generalities and ill-considered leaps to oratorical conclusions not only usurp patent fact and sound reasoning, but breed misconceptions and misapprehensions that are absolutely false and oftentimes find lodgment in the minds of those who are all too willing to have others form their opinions for them.

Some That Have Some Basis of Fact

Let us first consider briefly a few criticisms which would appear to have some basis of fact, and then take up later some typical misconceptions. Within the limits of a paper of this character it is impossible to put in anything like an adequate defense to the charges made against us. Moreover, it is not necessary to do so. The object is merely to smoke them out.

Choosing at random some of the more popular complaints we find the following:

"The sales organizations of our gas companies are notoriously behind the times. The quicker we get some broad-visioned men with commercial experience on our big executive jobs, the better off we will be."

Needless to say, our commercial men voice that complaint, and they do so rightly, they believe. We have been tardy in developing the sales end of our business. No one will deny it. Yet there is said to be a dearth of sales managers of real executive timbre. Is it not true that the industry has lacked from within its own ranks, a commercial Moses, so to speak, who could lead it into a new land of opportunities?

Here is another:

"One fault of the industry is that it doesn't anticipate the future. Too often we wait for the other fellow to get the jump on us and then we occupy ourselves in an earnest effort to catch up."

We can plead mildly guilty to that charge with the knowledge that other industries larger than ours are in a similar and perhaps worse condition. Our American Gas Association committee on a three or five-year program of activities will make its report in June. This shows that we are not altogether ignoring the future.

A Real Indictment

Here is a real indictment:

"We spend too much time worshipping tradition and precedent. It is well nigh impossible to get the gas man to do things differently from his grandfather's time. Even yet we shy at new ideas and methods like a balking horse at a flying newspaper."

In view of the sweeping character of such an accusation, it would seem as if the Frenchman who said: "All generalizations are false, including this one," is the most competent witness we have at the moment.

A charge of more specific character is as follows:

"We think we cannot change our rates so as to have them more equitable than they are. We hear the following excuses: 'We are getting along as we are. Why cause ourselves a lot of trouble by changing our rates to ones which are more equitable? It is best to leave good enough alone.' This apathy and mental and physical laziness of some of our men

is a great stumbling block to our industry's progress."

The Association's committees on rate fundamentals and rate structure are aware of this condition and are trying to remedy it. It can't be accomplished over night, however.

Research

Most of us are familiar with this one:

"Other industries are continually reaching out for new and broader applications of their processes and products by research. The gas industry has been practically at a standstill so far as research is concerned."

True, but here again we seem to have sensed the situation, for the Association already is proceeding with constructive research in the fields of industrial gas, and the more technical phases of the manufacture and distribution of gas. Nevertheless, we do lack adequate facilities for research, and openly admit it.

A complaint of several years' standing has been expressed this way:

"One of the difficulties in our business is that the technical development in the utilization of our products lags behind the requirements of the service. For years there have been periods in which we have definitely realized what we ought to have had in the way of appliances and they weren't to be had. How about a radiant heat broiler, for instance?"

I understand there are three radiant heat broilers available today, with the possibility that a fourth will be added very soon. If some of our manufacturers were to answer this charge they would question the ability of gas companies to sell what they already have, and there you are.

The "Poor Relation"

What can one say in mitigation of the following?

"Why is it that the gas business is usually treated as the 'poor relation' in combination companies? Answer: Misconception of the magnitude of possibilities. Why should there be this misconception when the potentiality of the gas business for the sale of heat makes the electric business look like a 'piker'?"

Perhaps in our humiliation we can obtain some relief in the situation which exists at the moment in England, where conditions are almost the reverse of what they are here. In a recent issue of the Efficiency Magazine, a leading electrical trade paper, we find this soothing editorial:

"Don't worry about your competitors (meaning the gas men). They are the spice of life. They are the zest of business. If it weren't for your competitors you would be as dead as the Post Office or any other monopoly. When Christmas comes send them a present with a card, saying, 'Many thanks for having kept me alive during the past year.'"

The Charge of Ultra-Conservatism

An interesting illustration of how a relative newcomer to our industry may revise his earlier estimate of its progressiveness is afforded in the following:

His first statement was to the effect that "the gas business has its share of ultra-conservatives who promptly wave a red flag every time a new thought pokes its head above the horizon." Later, when he became acquainted with the executives of the industry and the problems they were facing, he was magnanimous enough to say:

"When I first made the acquaintance of the gas industry I heard on many sides that a majority of people in the business were ultra-conservative, and that this condition was responsible for the slow progress that has been made in extending the use of gas into many industries that are virgin fields for this fuel. Such apprehensions as I had concerning the supposed backwardness of the members of the gas fraternity with respect to scientific advances has been swept completely away."

In looking over the complaints already mentioned, it is apparent that the gas business has not attained a state of perfection. However, it is a healthy sign when an industry faces its own deficiencies with courage and a will to conquer, instead of resting smug in the belief that its position is impregnable. Legitimate complaints based on a fair and impartial analysis of the facts and backed up with constructive suggestions, work great good in every business. In the end, they are more conducive to a real and lasting prosperity than the platitudes of the over-optimistic.

On the other hand, the situation is exactly reversed when the members of an industry, be they an insignificant minority or not, attack their own business without justification or in an exploitation of their egos take particular delight in broadcasting rank misconceptions.

Irresponsible Whinings

Without further introduction, I will touch upon several of these irresponsible whinings. The first blast is as follows:

"The electrical industry could kill the gas business tomorrow if it wanted to."

The best answer to this—if it deserves an answer—is in the words of Samuel Insull. Says he:

"The gas business is one of the easiest businesses on earth to guess wrong on."

Here is another:

"The gas industry is an old man's business—full of old fogies and dodoes."

What justification is there for a remark like this except chronic indigestion or a hopelessly befogged outlook on life? Last year when I asked the seven remaining members of the Old Guard of our industry (there are only six left now) what they considered to be the most significant development of our industry today, they replied almost to a man "the large number of college-trained young men who are joining our ranks."

Another misconception of a particularly glaring nature heard on numerous occasions is:

Run by Engineers

"The trouble with the gas business is that it is run by engineers."

Just what interpretation should be given the word "run" is not understood. If it is meant that men of engineering training direct the executive affairs of our companies, it is absolutely false, as you can prove to your own satisfaction if you will look into the matter. Let us not forget that "Management is the head, Engineering and Salesmanship the hands, and Service the heart of all business."

In regard to this charge that the engineers rule the roost, I thought it would be interesting to obtain the comment of a leading accountant, a leading manufacturer of equipment, and a leading engineer. Here are their answers:

The manufacturer: "I do not agree that the gas business is run by engineers. As a matter of fact, my observation is that we do not have sufficient engineering power in the industry."

The engineer: "I take issue with anyone who says the gas business is run by engineers. The trouble is that a misconception prevails that gas engineers are not needed in our business."

The accountant: "I am not worried about the gas business being run by engineers. We could have still more engineer influence in gas management without any danger of one-sidedness."

That would seem to settle the question, temporarily at least.

The Inferiority Complex

Another attack typical of its kind is to this effect:

"The gas man is suffering from an inferiority complex."

This statement is invariably made in the course of a superficial comparison of the gas and electrical industries. It is human nature to think that the other fellow's pasture is better than your own, until you talk with him and discover that he is heir to the same number of ills that you are. It is quite likely that those who make the above charge are themselves the victims of their own inferior mentalities.

One more wail and I am through with them. It is to the effect that in our public relations work we are paying penance for some terrible sins committed away back in the dismal past.

As a matter of fact, the gas business is not paying penance for anything, and if it were, the bill would have been paid long ago and the whole matter forgotten. Nobody forgets like the American public. Every newspaper man knows that he must begin a story of past events with a recital of facts which every thoughtful person ought to recall. The trouble with those who make this ridiculous statement is that they are always searching for alibis for their own shortcomings and failures.

A recent investigation made in Chicago shows that eighty per cent. of gas customers judge the company entirely on their personal experiences with it and with its service, their judgment being affected far more by personal contact with employees than by any other factor. In other words, it is the quality of today's gas service that counts.

If an institution is the lengthened shadow of a man, how small indeed must be the shadows cast by those who delight to circulate misconceptions or who have learned to know only enough to make them carping critics! The gas business will be here on earth prospering long after these malcontents pass on, only instead of leaving it in a better condition than they found it, they will retard the progress that every healthy-minded, progressive and competent gas man is striving for.

Four attractive advertisements from England

An Enlightening Incident

Again, it has been said:

"Successful organizations do not depend upon the number of people added to them, but rather on the amount of intelligence added to the people already with them."

In this connection, I am reminded of an incident which took place a few days ago in one of our larger companies. One of the vice-presidents overheard a clerk make remarks which were distinctly unfavorable to the company. Later in the day, the vice-president described the incident to the head of the department in which the clerk worked.

"That's terrible," exclaimed the department head. "I'll have him fired at once."

"Just a second," replied the vice-president. "If that clerk is fired, two other men go out with him. You are one, and I am the other."

The department head was dumbfounded.

"It's this way," explained the vice-president. "If you had given that clerk the proper kind of information he never would have made that remark. However, I can't hold you altogether responsible for what happened, because I have no recollection of having told you the information in the first place. In other words, three of us stand convicted. That's the way our president would look at it."

If the attitude of that vice-president were emulated by every executive in our industry, can you not see the good that would result?

Industry Fundamentally Sound

It is said that periods of introspection are as valuable for industries as they are for individuals. In our own circle, after one has made a critical examination of conditions and has weighed in the balance all the good and the bad, one must face the inevitable conclusion that the industry is not only fundamentally sound, but offers at this time more cause for a spirit of genuine optimism than ever before.

Then why not generate such a spirit through our organizations, making articulate on every occasion a sturdy belief in the future of the gas business, and fighting at all times for the dissemination of right thought.

We do not hesitate to paint a marvellous "picture ahead" for the edification of the public—a picture which shows homes artificially cooled in the summer and automatically heated in the winter; the substitution for ice of refrigerating machines utilizing gas heat; universal adoption of the temperature method of cooking food; prohibition of the burning of coal in the raw state, and an unpolluted atmosphere free of smoke, ashes, soot and grime, not to mention scores of other remarkable developments in the making.

Would it not be well for us to make a first "showing" of any such picture to the 87,000 men and women on our payrolls?

Seven years ago, at the first convention of the American Gas Association, and in the message delivered by our first president, you will find these pertinent words:

"Every one in the industry must be made to feel that he is engaged in an honorable calling, and that the future holds possibilities of permanency and advancement."

Are we doing our full part in spreading such sentiment?

Making Centrifugal Cast Iron Pipe

A description of the Mono-cast pipe process

MONO-CAST is the trade-name of the American Cast Iron Pipe Company for cast iron pipe made centrifugally in refractory molds.

Each charge of iron is carefully selected and weighed. The charge is introduced into the cupola by a mechanical charging machine. The operation of the cupola is under complete control by the use of recording pressure gauges, volume gauges, recording pyrometers, etc., so that a uniform quality of molten metal is produced throughout the entire heat.

In making the refractory molds in which the iron is cast to make pipe, red loam molding sand from the Montgomery, Alabama District is used as a base, and to this is added a sufficient amount of washed silica sand to produce a molding sand of the proper specifications.

The chief bond of the molding sand comes from the red loam, but a yellow field clay, fire clay, or glutrine, is also used which is applied to the sand in the form of a thin wash to give it additional bond in the green state.

Facing the Sand

The sand, when rammed in the flask, is faced with ordinary pipe foundry facing made from nut coke which has been pulverized to the consistency of flour. This is used as pipe mould facing. This facing comes in the form of a semi-tempered material, just moist enough to prevent dusting, and is introduced as required into a mixing machine along with water and

(Continued on page 388)

The Refrigeration Load *

What it means to the gas industry

Nils T. Sellman

Consolidated Gas Co., New York City

ICE and artificial refrigeration in the United States is no longer classed as a convenience but as an absolute necessity. All other countries combined do not produce an equivalent potential market to that of the United States for Iceless refrigeration. Practically everybody in this country knows that such a convenience exists, and from present indications iceless refrigeration will be just as common in the near future as are vacuum cleaners and other appliances which may be classed as distinct conveniences if not absolute essentials in daily life.

Artificial refrigeration may be divided into two broad classes, domestic and commercial. Commercial refrigeration may be further divided into ice-making for sales purposes, and ice-making for cooling refrigerators in such places as butcher stores, confectionery stores, florists, etc.

Gas For Ice

The potential market for gas as a fuel in the manufacture of ice for sales purposes will not be discussed at any length, as this application does not approach being solved at this time. Just to indicate what a tremendous market there would be for gas in the manufacture of artificial ice is shown by the following table which shows the tons of ice consumed in Greater New York during 1924. The total for the year was 3,350,000 tons of ice, and was consumed month by month as listed.

January	2.6 per cent.....	87,000	tons
February ...	3.0 "	100,300	"
March	3.8 "	127,000	"
April	5.5 "	184,000	"
May	9.6 "	321,500	"
June 13.5	"	452,000	"
July 17.0	"	569,000	"
August 16.2	"	542,000	"
September .14.4	"	482,000	"
October	8.2 "	274,000	"
November ..	3.5 "	117,000	"
December ..	2.7 "	90,500	"

These figures are based from data obtained from the files of the "Refrigerating World," and would indicate a possible annual sale of gas for New York City alone totalling between six and seven billion cu. ft. of gas. Greater New York represents about one-tenth of the population of the United States that is served with gas, and it would therefore be logical to extend these figures ten-fold for the ice production in those areas where gas is now being sold, thus indicating a total annual sale of about sixty-five billion cu. ft. of gas per annum. Whether or not gas can be economically applied to large sized artificial ice plants is problematical, but we do know from present indications that a great deal of the ice used at present will be substituted by iceless refrigeration.

You will note from this table that, based on the tons of ice used month by month, the percentage used in any one month is almost inversely proportioned to a monthly gas house-heating load.

An Advantage of Iceless Refrigeration

When we come to apply iceless refrigeration directly in the ice-box, the ratio of monthly demand for refrigeration is nowhere as near as marked as it is in the case of ice consumption. There are many reasons why this is true, the outstanding cause being the tremendous loss that takes place in handling the ice during the warm weather. During the month of July a cake of ice has lost more than half its weight by the time it is finally placed in the ice-box. Another reason why the iceless refrigeration will not show the same marked difference between December and July is that most iceless refrigerators are well built, heavily insulated and are not, therefore, affected by surrounding temperatures nearly as much as the ordinary ice-box.

The application of iceless refrigeration to small commercial establishments offers an excellent market, but just how this load will vary throughout the year will be sufficiently similar to domestic iceless refrigeration, so that for the purpose of this discussion they will be analyzed in the same manner. There are, however, a few reasons why commercial refrigeration will vary with the weather conditions somewhat more than domestic refrigeration, particularly if we are going to apply refrigerating units to existing ice-boxes as we find them in butcher stores, confectioners, etc.

Factors Influencing Question

There are so many variables that enter into an analysis of the question under discussion that a few very definite assumptions must first be made:

1. That most domestic iceless refrigerators will be sold as a complete unit with a properly designed ice-box.

2. That most ice-boxes are installed in kitchens.

3. That 1 cu. ft. of 500 B.t.u. gas is equivalent to one pound of ice melting effect during the winter months, and that 1¼ cu. ft. of gas is equivalent to a pound of ice melting effect during the summer months.

The change between winter and summer is caused by the difference in operating efficiency due to

(Continued on page 391)

* Presented at the Refrigeration Committee Symposium, New York City.

GAS MERCHANDISING

Domestic—Industrial

Ideas for the Man Who Sells

William H. Matlack

WHAT IS APPROACH?

WE are continually reading about watching the approach in selling and just how to watch it and what to do and say, but as yet we cannot see that there is anything to it. It seems to us that every human being has to be approached in a different manner, and that no cut and tried "approach talk" can be employed. Now and then we have felt this "approach stuff" being used on us by a salesman with the result that we instantly lost all interest in the man and the product he was trying to sell. It seems to us that a whole lot may be

said upon this subject, but it would have more to do with knowing your product from soup to nuts, what it was made from, for, and where it would be most likely used rather than a cut and dried story to tell at very door that you might be able to hold open with a foot, or enter. If you know and believe in the merchandise you are selling, you need not worry about the "approach," you will find a way to get to the prospect, and if you get to enough of them every day and tell your story honestly and with enthusiasm, born only of faith, your sales quota will be safe.

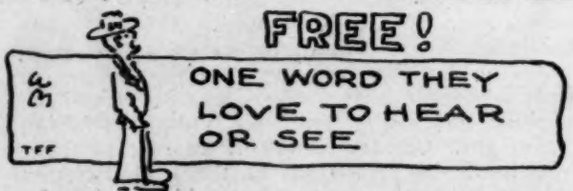
This Man Thinks Windows Are Built for the Sole Purpose of Letting in Light.

WHEN YOU CUT THE PRICE

BEFORE you decide to have a cut price sale to increase business, do a little figuring. Remember that, if you cut the price, your sales volume must be materially increased to break even. For instance, if you operate on a 25 per cent. margin of profit and cut the price of gas ranges 10 per cent., you will have to increase your sales volume 50 per cent, etc. etc. Think it over! When you give an allowance for old appliances, the amount of allowance less the average recovery value (if you rebuild appliances thus taken in trade) of the old appliance should be taken into consideration. Gas companies generally are getting away from the old idea that they must sell merchandise at a price that will permit them merely to break even. Experience along that line proved costly in many instances. Many times the break was not an even one, but showed a loss, and this loss in many instances, has caused many companies to get out of the merchandising end of the business altogether.

THEY FLOCK TO THE FREE

THERE is one word that will never be overworked, it seems, FREE. In any selling scheme it always brings in a lot of people who could not be reached and brought in in any other way. Just work out a sales plan with the word "FREE" woven into it, and you may be assured of attracting many people that can be attracted in no other manner. A set of dishes, an aluminum cooking set, a box of polish, a cook book or a FREE LUNCH will always help to swell sales. Try it if you are out of sales ideas or prospects. Just work out a plan to give something FREE with each sale or to each person who calls at your store or who sends in a coupon, and be sure to have the word FREE dominate the advertisement, banner or other attention-attracter used.



As The Journal Views It

APPLIED PUBLIC RELATIONS

Science is devoted to the determination of principles and laws, and to the establishment of theoretical conditions under which they may operate. Art takes these principles and applies them in actual practical work. Before an art can become really great, its fundamental principles must be defined. This has been the development that every art or every practical, human endeavor has gone through. Thus, we find the sociologist claiming that his particular line of endeavor has now been developed into a science. Scientific principles of sociology have been developed and set down in written word. The same conditions apply in many other cases.

We have also similar situations in a particular phase of the gas field. We are referring to the public relations field. The principles of public relations have been set down in the written word. Certain fundamental laws and rules have formulated. We can read in books and articles of the essentials of public relations. It has become a science and, as in most cases, it was an art long before it became a science.

In a recent issue of the American Gas Journal there was published an article entitled "Applied Public Relations." This article did not deal with theories as such, but with the application of these principles actually in developing good-will. It talked about the ways and means available for creating good-will and maintaining it. It emphasized most strongly the function that is performed by the employee of the gas company in this connection.

It is a fact that the public relations work in the gas industry and in any utility is of fundamental importance, for on it is based the real success of that utility. The gas company can not get along without the good-will of the community that it serves. No matter how efficiently it may make or sell gas, that alone will not create the proper conditions of friendliness and co-operative endeavor which are necessary to the growth and progress of almost any industry, and particularly of the public utilities. Thus, it is gratifying that those who have been primarily concerned with public relations have been able to lay down a set of rules and principles defining the science of public relations in exacting terms. Not only that, but they have been able to develop an art which may be called "applied public relations," and are making use of these principles in making the relations between the utility and the people that it serves, all that they should be. Thus the public relations department fulfills its essential function and makes for the progress of the gas industry.

GAS ANNIVERSARIES IN 1926

The year 1926 happens to mark four important anniversaries of the gas industry, known as the oldest public utility in the country.

It was in 1796, one hundred and thirty years ago, that a few citizens of Philadelphia assembled to watch an Italian maker of fire-works, Ambrose by name, demonstrate the superior lighting qualities of the gas flame. That was the year before George Washington retired from the presidency. It is interesting to note that the history of gas extended so far back in the history of the Nation that in its development the gas industry has kept pace with the growth of our country. Just that fact alone should carry a message to all gas men and should imbue them with a proper respect for their work and for the industry with which they are connected.

It is also interesting to note that ten years later in 1806, or one hundred and twenty years ago, David Melville first lighted his home in Newport, Rhode Island, with gas. He also used gas in lighting the street in which his house was located. It was again ten years later in 1816, or one hundred and ten years ago, that the first gas company in the United States was founded in Baltimore.

The present year will also see the sesquicentennial exhibition open its doors in Philadelphia. It was at the centennial exhibition fifty years ago, held in the same city, that an exhibition was given for the first time of cooking by gas. This also marked the beginning of any notice of gas cooking in the public newspapers. We can be well amazed today, when at the sesquicentennial exposition, we look back during the comparatively short span of years, and

see the great progress that has been made by gas. What a difference fifty years ago, when gas as a cooking agent was in its experimental stage and today when that fuel has not only become the universal domestic fuel but also has entered the industrial field and bids fair to become in time the universal fuel of industry.

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MAKING CENTRIFUGAL CAST IRON PIPE

(Continued from page 384)

reduced to a liquid, with the facing material in suspension.

The sand used for making the socket cores, which form the inside of the bell of the pipe, is a very fine grained washed silica sand, such as is used in making oil cores for radiator castings. This sand is mixed with linseed oil, which is the binder.

The only other raw material used in connection with this product is tar, commonly known as coal-tar. This is bought on a specification governing its content of moisture and free carbon, and is delivered to the plant in tank cars of approximately 10,000 gallons capacity. It is pumped from these tanks into storage tanks and then into the dipping vats as required.

Mono-cast pipe are of unit construction, i.e., one pipe to the flask, which are made of cast iron. The flask is machined on all points very accurately to make it possible to do repeat work. It is necessary to ram the sand mold perfectly concentric with the spinning surfaces of the flask.

Handling the Flasks

The empty flasks come down the run in the three-way ramming station and are received on a tilting table in the run which delivers them into the vertical position on the ramming stations. The flasks are handled three at a time and these two ramming stations are used to alternate the work, so that, while ramming on one station, the rest of the work is being completed and a change is made on the other station.

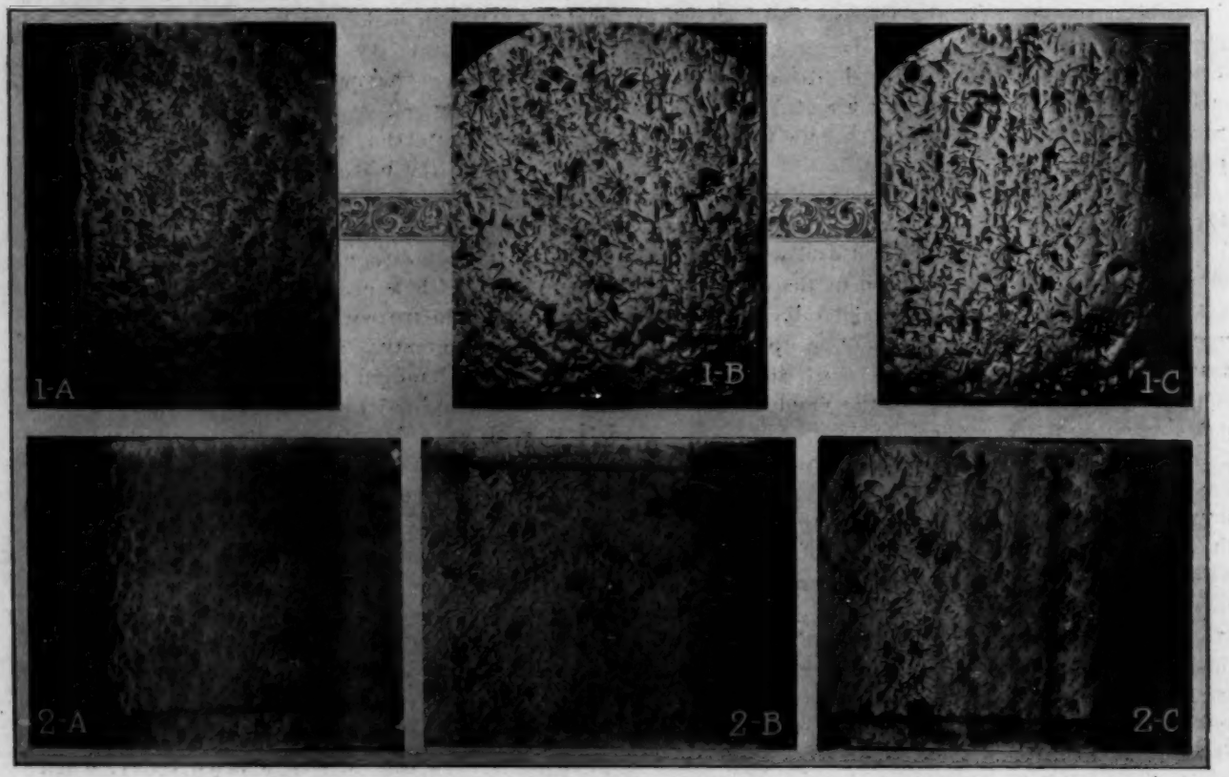
Once the flasks are in the vertical position and properly located on the ramming tools the three patterns are lowered into them. These patterns are handled from above by a stationary pattern hoist.

The pneumatic ramming machines are then moved into position by mechanical means from above and lowered into the individual flasks. The sand delivery chutes are placed into position and the ramming operation proceeds throughout the length of the mold, which is about 16 feet long. The time consumed in ramming is about 1½ minutes.

Further Operating Details

The patterns are drawn, three at a time, from the molds; the molds are lifted off of the ramming stools

(Continued on page 390)



Photomicrographs of Cast Iron Pipe (see text for explanation)

INDUSTRIAL GAS LESSONS

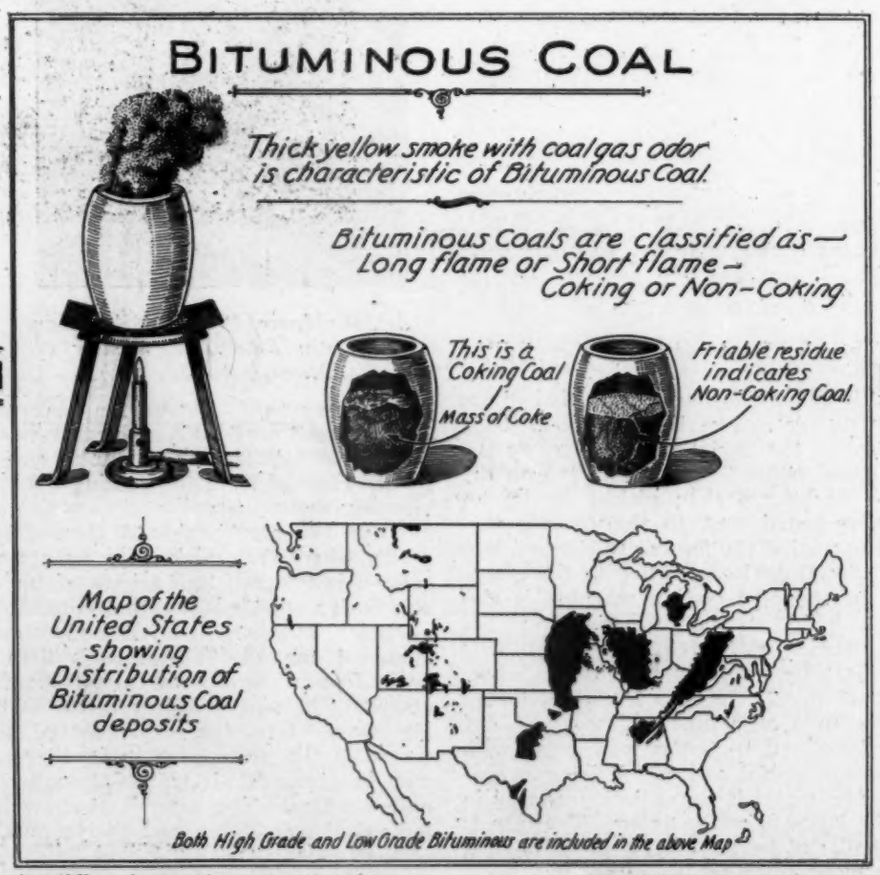
IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 117

Combustion

Bituminous Coals

The bituminous coals are next in series. They stand between the sub-bituminous and semi-bituminous coals. As far as the semi-bituminous coals are concerned, which are next highest in the series, the most important and are used in the largest amounts. They are the coals that serve as the main fuel for industry, being employed in the generation of steam in boilers, in the manufacture of coal gas and producer gas and also for direct heating of all sorts of industrial furnaces, ovens and kilns.


BITUMINOUS COAL
Thick yellow smoke with coal gas odor is characteristic of Bituminous Coal.
Bituminous Coals are classified as— Long flame or Short flame— Coking or Non-Coking
This is a Coking Coal
Mass of Coke
Friable residue indicates Non-Coking Coal.
Map of the United States showing Distribution of Bituminous Coal deposits
Both High Grade and Low Grade Bituminous are included in the above Map

bituminous coals differ from them particularly in possessing a greater proportion of volatile matter. It is due to this large percentage of volatile matter that these coals burn more freely with a long yellowish flame giving forth a heavy yellow smoke which has the characteristic bituminous odor. Of all the solid fuels, bituminous coals are perhaps the

Classifying Bituminous Coals

There are several ways in which the bituminous coals may be divided, depending not only on the manner in which they burn, but also on the character of the residue that is left behind after combustion. Thus the coals are long flame or short flame, cok-

ing or non-coking. The lowest type of soft coal, according to Lucke, in his Engineering Thermodynamics, is the non-caking long-flame coal. Such coals are black or brown in color and, while they are found in this country, they are most abundant in England and Europe. They contain about forty per cent. of volatile matter and between 45 and 55 per cent. of fixed carbon. About sixty per cent. coke is obtained with them. Their ultimate analysis is somewhat as follows: 75 to 80 per cent. of total carbon, 5.5 to 4.5 per cent. of hydrogen, 19.5 to 15.5 per cent. of nitrogen and oxygen. The calorific power is between 14,400 to 15,300 B.t.u. per pound.

A caking or coking coal is defined as being that coal which "Softens or melts and solidifies into a more or less solid cake, leaving a hard coherent mass on further heating." On the other hand, the bituminous coal that does not soften materially when being heated and which gives a residue which is friable and non-coherent, is known as a non-caking or non-coking coal.

An analysis of a typical bituminous coal, on the ash and moisture-free basis, follows:

	Per Cent.
Volatile matter	30.20
Fixed carbon	69.80
Sulfur	1.06
Hydrogen	5.94
Carbon (total)	87.10
Nitrogen	1.37
Oxygen	5.12
Heating value	15,560 B.t.u. per lb.

The moisture usually ranges from 2 to 10 per cent. and ash from 2 to 12 per cent.

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(Continued from page 388)

by a hydraulic lift and the blacking is applied to the face of the molds while in a vertical position. They are then returned to the horizontal position by the tilting table and are ready to move forward on the flask run. The flasks are then picked up by an overhead crane and delivered to the casting machines. In this operation the flasks are handled two at a time by a special device attached to the crane.

The top-half of the pipe-casting machine is elevated to sufficient height to allow the flask to roll in sidewise. The machine is then closed; the motor is attached to the flask by a quickly-detachable clutch; the proper amount of iron is placed in the pouring ladle, from large ladle on a monorail trolley. The machine is then inclined to the proper angle with reference to the horizontal and the pouring operation proceeds. The metal is immediately poured in the mold and the latter is set spinning. The iron is placed on the wall and held there in the form of a tube until it is sufficiently set to retain its shape, when the machine is shut down.

Handling the Finished Pipe

The mold, with a finished pipe in it, is rolled on through the machine. The end trimmings are removed from the flask and the socket sand removed from the bell end of the pipe. All of this takes place within ten minutes, including the casting and spinning operation.

The flask, with the sand and pipe in it, now passes to the stripping machine, which is a three-way machine built on a rather abrupt incline. The flasks are placed on a tilting table and held at an incline while the sand is being removed from the mold. The flasks, with the pipe in them, are returned to the horizontal position by the tilting table and the pipe puller removes the pipe from the flasks three at a time, and deposits them on a run. In this run there is a conveyor which immediately conveys the pipe into the cooling oven.

W. D. Moore, President American Cast Iron Pipe Co., Inventor of Mono-cast Pipe.

The Cooling Oven

This cooling oven is equipped with a slow moving conveyor which gradually rolls the pipe through it. There the pipe is kept under temperature control for approximately forty minutes, and until its temperature has been reduced to at least 500 degrees F. At this point it is ready to be removed from the cooling oven and enter the cleaning department.

After the pipe has been cleaned it passes to a point, where it is picked up by a small hoist, and then it is lowered into a bath of tar and is held in this bath a sufficient length of time to take a proper coating. The bath itself is under temperature and chemical control. The pipe is then permitted to drain free of surplus tar and thereafter is further cooled. The pipe is then sent to the hydraulic testing press. Gas pipe is not coated but after being tested in the press pass to another press where it may be given an air test of 25 pounds air pressure under water. The pipe is then weighed and the individual weight marked on the outside and inside of each pipe.

Photomicrographs of the Cast Iron Pipe

Figure 1 shows mono-cast structure at outer edge (a), middle (b) and inner edge (c); and Figure 2 (a, b and c) shows the same relative positions in a sand cast pipe.

It will be noticed that the chill on the outside (sections a) is much deeper on the sand cast pipe than on the mono-cast, but that the graphite formation in the middle (sections b) of the mono-cast is not so coarse and has not the tendency to form a continuous net work as in the sand cast.

The inside (c) shows the chilling effect of the core in Figure 2 while the mono-cast shows no tendency to change in this section.

There is, therefore, much greater uniformity of structure throughout the section of mono-cast than sand cast, indicating that the casting was not formed under strain and that the crystallization proceeded normally from outside to inside, where any foreign bodies are ejected from the wall. In a casting, cooling from both walls toward the middle, such inclusions are caught and held, thus forming a plane of weakness at this point.

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THE REFRIGERATION LOAD

(Continued from page 385)

change in cooling water temperature, or in the case of air cooled machines by similar changes in air temperature. It being assumed that most ice-boxes are placed in the kitchen, it follows that the box will be surrounded by 70° air during most of the year, with temperatures possibly reaching 30° above this for short periods. From observations that we have made on gas-fired refrigerators, all these assumptions would indicate a difference between summer consumption and winter consumption which would not exceed two to one; in other words, the month of July would use approximately twice as much gas as January.

Controlling Cooling Water

This assumption might even be upset if we should decide to control ice-box temperatures by regulating the cooling water rather than the gas consumption. For instance, in one machine which we are now investigating and which is of the continuous absorption type, we find that controlling the cooling water has a greater effect on the capacity than change in gas consumption has, and as the gas consumption is so low and represents such an economy it could well be neglected. We can, therefore, conceive of such a case where it might be possible to consume exactly the same amount of gas winter and summer.

With the development of an air-cooled unit this would probably not follow, as in that instance we would probably be compelled to produce automatic temperature control by regulating the gas. I merely mention these alternatives as they show that the prospective load of gas-fired refrigeration is speculative, and still depends upon factors which have not been adequately determined. If we assume gas control, then the consumption for the month of July, for an average domestic refrigerator, will be about 1500 cu. ft., and the January consumption approximately 750 cu. ft. If we assume water control, then the consumption will be same as estimated for July throughout the twelve months, and the saving will be reflected on the water consumption. In this case the water consumption during the month of July will be approximately six thousand gallons and three thousand gallons for January. In most localities this would not represent the economy that gas control would.

Cost of Operation Low

The cost of operation, however, is sufficiently low that other considerations must be recognized other than economy, and for that reason water control may still prove to be most advisable. Another alternative exists, of course, and that would be that both gas and water were properly proportioned according to the refrigerating demand, in which case the unit is somewhat complicated and the first cost would of necessity be somewhat higher.

Effect on Gas Load

No matter what assumptions we make the annual gas consumption from the average domestic installation should not exceed sixteen thousand cu. ft., and will in all probability average about fourteen thousand cu. ft. Most gas men are amazed and somewhat disappointed when they learn that the revenue is so low. I do not share this feeling, however, as this consumption can be secured without any additional investment on the part of the Gas Company. The meter, house-piping and service will in every instance be adequate to take care of this additional consumption, providing the existing service conditions are satisfactory.

In addition to the possibility of raising our annual domestic consumption from about thirty-six thousand cu. ft. per customer to fifty thousand cu. ft. per customer, we have the further advantage that gas refrigeration will have a stimulating effect on the application of gas for other uses in the home. It should aid us materially in selling both water heating and house heating, as there is no doubt but what the public will feel more than ever that gas is not only a modern convenience but also a faithful and never tiring servant to the housewife.

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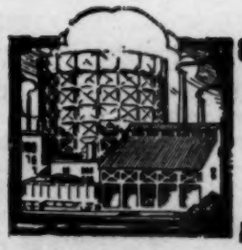
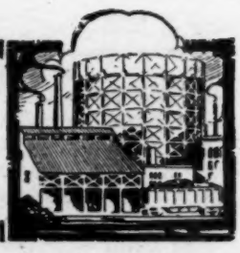
SPRING CLEANING HINTS

Do not forget the convenience of the gas range in helping with the spring cleaning. A steaming tea kettle over a gas plate will do wonders in renovating velvet or plush hangings, not to mention the personal clothing of the inhabitants of the house, which may have become rain-spotted or matted. Simple dyes may be had in all shades and with the help of hot water from the gas range will transform a faded room to one of springlike colors.

Do not hesitate to remove the dingy coverings on upholstered furniture. Often the bit of damask or brocaded velvet may be restored in one of these ways. If not, a new piece is not expensive. Putting on upholsterer's braid, which is the only difficult part of the task, is rendered easy by using dry fish glue, which is broken in small pieces and dissolved in a little water in a double boiler (the upper container should be one that can be discarded later). Keep this boiling over the simmering burner on the gas stove and apply with a No. 7 paint brush.



NEWS OF THE GAS INDUSTRY



Eastern States Gas Men Hold Convention

Fourth Annual Meeting in Philadelphia

The Eastern States Gas Conference held its fourth annual meeting at the Bellevue-Stratford Hotel, Philadelphia, Pa., April 21 and 22. The meeting was called to order by W. Griffin Gribbel, president, and in opening remarks he stated that the conference was for gas men and when he said gas men, he did not mean financiers but the men in actual charge of the operation of the various departments of the plant. The success of this meeting was indicated by the attendance of nearly 800 gas men.

After various reports had been read and acted upon, the following officers were elected for the coming year:

President, S. B. Curtis, Curtis Publishing Co., Philadelphia, Pa.; 1st vice-president, H. S. Schutt, G. H. Geist Co., Philadelphia, Pa.; 2nd vice-president, H. H. Newman, Public Service Electric & Gas Co., Trenton, N. J.; 3rd vice-president, Walter Whetstone, Philadelphia, Pa.; secretary-treasurer, J. C. Smith, Reading, Pa.

R. A. Koehler, Newark, N. J., retiring secretary-treasurer, was complimented for the splendid service he rendered the conference during the past three years.

The Blue Star Campaign

The first paper on the program was entitled "Sales—The National Problem and its Answer," by John A. Weiser, sales manager of the Pennsylvania Gas & Electric Co., York, Pa. He outlined briefly the scope of the Blue Star Campaign, incorporated by the American Gas Association, which has for its object to sell the customer a complete gas-fired equipment for the home, including the gas-fired househeating boiler, range, water heater, room heater, laundry equipment, etc. He stated that it was estimated that such an installation would cost about $1,000. He also emphasized the fact that it was the duty of the gas companies under this plan to see that all new homes are equipped with the proper piping and outlets to take care of such a complete installation of appliances.

J. A. Perry, gas engineer of the United States Improvement Co., Philadelphia, Pa., delivered a paper entitled "Past and Present Trend in the Developments of Gas Manufacture." This was a very able paper and will be published in full in a near issue of the American Gas Journal.

Nils T. Sellman, engineer of Utilization, New York Consolidated Gas Co., N. Y. C., read a paper on "Gas Refrigeration." In connection with this paper, Mr. Sellman had on exhibit a very compact model of a gas refrigerating machine, the operation of which he explained in detail. This machine will be on the market in the near future and will be a factor in increasing the gas company load during the summer months.

Public Relations

Three papers which might be grouped under the heading of Public Relations, one by Robert S. Binkerd, entitled "Public Relations via the Employe"; another by G. L. Harris, entitled "Orderly and Efficient Office Systems," and another by Howard H. Newman, on "Gas, the Finest Business on Earth," were next on the program. They all emphasized the necessity of keeping the employes thoroughly posted on the plans of the company, both the employes in the office who come in contact with the customers and those on the outside, in practically all departments. As one of the speakers stated, you can have the finest distribution system that can be devised, but the average consumer judges the gas company from his contact with the employe.

Jacob Jones of Bridgeton, N. J. summed up his discussion by stating that in his opinion the term "public relations" means that everyone should act just natural.

On Thursday morning, Major Forward, secretary-manager of the American Gas Association, made an address reviewing the more recent activities of the American Gas Association. Major Forward always has something interesting to say along these lines because the A. G. A. is energetically advancing along the whole front and he has a new story to tell every month.

"What is Gas Made of and How Do We Make It?" was the title of a paper read by W. H. Fulweiler, chemical engineer, U. G. I. Co., Philadelphia, Pa. His talk went into details of how various gases are made, the materials used and the reactions of the chemicals in the materials under various conditions. He expressed his opinion that we are not selling gas but selling the service that gas will render. He showed by lantern slides, the various pieces of apparatus used in manufacture of different kinds of gas.

F. A. Lydecker, assistant general superintendent of distribution of Public Service Elec. & Gas Co., Newark, N. J., talked on the subject "After We Get It, How Do We Deliver It?" He described in detail, the various methods of the distribution system from the time the gas goes through the station meter to the holders and into the mains. For the first time, the film feature "The Ghost in the Crucible," the new U. G. I. moving picture, was shown. It traced the history of gas from the beginning of time, including the discovery of gas in coal by Murdock in the 16th century and its development down to the present time.

Broadcasting Time

From one to two o'clock on Thursday afternoon was broadcasting hour. This was ac-

complished through the courtesy of Strawbridge & Clothier, Philadelphia. Miss Ada Bessie Swann, director of Home Economics, Newark, N. J., talked on "Gas in the Home." A concert was then given by the U. G. I. Music Masters. This organization is composed entirely of employees of the various departments of the U. G. I. Company. The band consists of 50 members under the direction of S. C. Shinn and C. L. McAllister. The boys not only performed on musical instruments, but several vocal selections were rendered by members of the organization as well as solos.

Other papers read on Thursday afternoon were by Lucius S. Bigelow, president Periodicals Publishing Co., Buffalo, N. Y., on the subject "Then and Now." Another by Major J. S. S. Richardson, director, Pennsylvania Public Service Information Committee, Philadelphia, Pa., the subject being "Telling the World." One of the interesting parts of the afternoon, not included in the printed program, was the presentation of the McCarter Medals.

McCarter Medals Awarded

Charles B. Croke, fitter, the U. G. I. Co., Philadelphia, Pa., resuscitated Mrs. Nellie Nichols and Mrs. Catherine Evans.

Howard Beardsley, fitter, the U. G. I. Co., Philadelphia, Pa., resuscitated Patrick MacTigue who fell over an arm chair and gas range in his home. Two burners of gas ranges were turned on and unlighted.

Frank Trembley, inspector, Public Service Electric & Gas Co., Gas Department, Newark, N. J., resuscitated J. Trask. Mr. Trembley was riding on a street car when a woman ran out of a shop calling for help. He jumped out of the car and ran into the shop, closed the hose cock and dragged the unconscious man outside and started resuscitation.

Leon McCarthy, pipefitter, Public Service Electric & Gas Co., Camden, N. J., resuscitated George Waterson of Gloucester, N. J. The call came to him while in Camden and he rushed to Gloucester in time to save the man's life.

J. Patrick Kerwin, street foreman, Public Service Elec. & Gas Co., New Brunswick, N. J., resuscitated John Toth. The victim was endeavoring to place a stopper in an 8-inch holder pressure main.

The first McCarter medal was presented October 15, 1924. Since then, including the five presented at the conference, there have been 39 medals awarded.

The conference ended with a banquet at the Bellevue-Stratford Hotel, Thursday evening.

Much credit should be given to the program committee, C. A. Bartlett, Philadelphia, Pa., chairman, and the arrangement committee, Stanley Grady, chairman, Philadelphia, Pa.

The fifth annual meeting of the Eastern States Gas Conference will be held in Philadelphia, Pa, April 27 and 28, 1927.

Middle West Gas Men Meet

Iowa Gas Men Change Name of Association

Two hundred men connected with the gas industry in Iowa, Nebraska, Minnesota and North and South Dakota attended the twenty-first annual convention of the Iowa District Gas Association at Hotel Fort Des Moines April 21, 22 and 23. The program was unusually interesting, the papers read on various phases of gas production, distribution, sales and new forms of utilization were noteworthy, and the convention was declared one of the best from all standpoints the association has ever held.

The opening session was called to order Wednesday afternoon by President C. M. Benedict who introduced Mayor Fred Hunter of Des Moines. The mayor extended a cordial welcome to the gas men. Frank T. Hanlon of Mason City responded briefly.

Change of Name Advocated

The report of the last year's activities of the council was read by Secretary H. R. Sterrett. The principal item of the report was the recommendation that the association change the name from the Iowa District Gas Association to the Midwest Gas Association. Secretary Sterrett pointed out that the geographical expansion of the organization since it was founded twenty-one years ago had been such that the old name no longer adequately indicated the territory included.

Reports of the affiliation representatives were next in order. J. E. Shuff, representing the advertising section, declared the problem is to awaken a greater public interest in gas as a servant of mankind. "We ought to be able to prove to everybody that gas from every viewpoint is the best fuel available," he said. Indicative of the change in the spirit of the average gas man, Mr. Shuff pointed out that ten years ago the average gas man read misleading or unfair attacks upon his business and promptly forgot the matter. "Today, he said, "the gas man clips out such items and sends them to headquarters where machinery is immediately set in motion to obtain a retraction or a correction. Publishers have responded readily, and there has never been a repetition of any misrepresentation where once it has been called to the attention of a responsible party."

Technical Work

C. T. Williams, technical representative, related that one of the big tasks of his section was to carry to completion the carbonization committee's program started last year. He reported that tests on several types of plants had been completed and will be available at the A. G. A. convention in the fall. The water gas committee's work of trying to standardize methods of figuring oil efficiencies, and the method of operating with soft coal as a generator fuel, he said were producing valuable material. He told of the advisory council on research and the proposed five-year program of research work to be carried on by the national organization.

Testing Laboratory Work

Activity of the manufacturers' section in conjunction with the association headquarters to secure a testing laboratory was recounted

by M. P. Roper. Mr. Roper told of the new specifications on gas tubing and gas ranges; he told of the question of admitting dealers to membership in the association, but expressed the belief that the time is not opportune for taking them into membership. The speaker informed the gas men of the survey which the manufacturers section is endeavoring to make for the purpose of securing comprehensive figures on the number of dealers engaged in the gas appliance business, their total volume of business and the amount of capital employed.

Frank E. Edge, Grinnell, Iowa
President Midwest Gas Association

Industrial Gas

C. R. Stahl, representative of the industrial section, in a comprehensive paper told of the activities of his section in boosting gas in the industries. He told of the series of advertisements being run in journals of the trades which use heat in their factories. The advertisements, he said, will run all through 1926. He also mentioned the booklet which deals with the use of gas in manufacturing plants and which can be secured in quantities at the bare cost of publication. He told of newspaper advertising prepared for the use of individual gas companies which wish to tie up with the national advertising campaign. The activities of the sub-committee on publicity was praised by Mr. Stahl, as well as the work of the speakers' sub-committee. "They have put out 372 sets of speeches on industrial gas. You should have yours and make use of it," he urged. Industrial gas courses in the colleges, and the plan to have a traveling school for the education of the industrial gas salesman were touched upon briefly.

Mr. Carmichael's Report

The report of the fifth meter course was read also by Mr. Stahl. This was followed by the annual report of Joe Carmichael, director of the Iowa Committee on Public Utility Information. "Six thousand stories have appeared in Iowa newspapers and in trade magazines which have been written in our office," he said. "Matter emanating from our office has been responsible for probably as many more. That is, the interest which we have been able to create in the public utilities has prompted newspaper men to think more extensively, and to dig up stories for themselves."

Elections

Following the report of the nominating committee by H. B. Maynard, chairman, the annual election was held. Frank S. Edge of Grinnell was elected president, C. A. Nash of Davenport was named first vice-president, and H. R. Sterrett of Des Moines was elected second vice-president, and re-elected secretary-treasurer.

John F. McGuire of Fargo, N. D., and C. H. Meyers of Iowa City were elected to the council, while B. F. Cowperthwaite, Fairbault, Minn.; H. R. Stephenson, Sioux City, Ia.; Louis Stein, Minneapolis, and E. H. Vieregg, Grand Island, Neb., were reelected.

As affiliation representatives, Fred C. Hoffman, St. Paul, was elected to succeed L. O. Gordon on the commercial section, and L. H. Luscomb, Davenport, was named to succeed C. R. Stahl on the industrial section. C. T. William- technical; M. P. Roper, manufacturing; J. E. Shuff, advertising, and A. T. Pleune, accounting, were reelected.

The vote to change the name of the organization to the Midwest Gas Association was unanimous.

Charles W. Person, publicity manager of the American Gas Association, addressed the convention on "A Private Audience with Dyspepsia." His heart to heart talk on that subject was not made public, but his statement with regard to "Blue Star" homes made the gas men sit up and take notice. "Within five years it is estimated that no appliance will be offered for sale to the public that does not bear the approval symbol of the American Gas Association's appliance testing laboratory," he said. "Gas company officials who are interested in the laboratory look forward to the day when "Blue Star" homes will be the most sought after homes in the country. They believe that persons who demand the sterling silver mark on their silverware will be just as insistent that the blue star label shall be on their gas appliances."

C. A. Nash, Davenport, Iowa
1st Vice-Pres. Midwest Gas Association

The President's Address

C. M. Benedict, president of the Iowa District Gas Association, in his annual address touched upon a number of important points in the development of the gas industry. He pointed to the increased interest of the public in the utilities, and attributed it to the remarkable record of utility stock

sales in recent months. "In Iowa in the past several months," he said, "approximately 16,000 customers have purchased utility stocks of a total value of more than $8,000,000."

President Benedict discussed rates and service, sales promotion, holding companies and the future of the gas industry at length. However, his remarks on public relations were probably the most notable. "The kind of public relations you have in your particular situation goes back to the policy and attitude of the management toward its employes," he declared. I am a great believer in publicity, but all the good will advertising in the world would be useless unless backed up by efficient service and contented employes. If you are successful in building up good public relations, it is largely due to the relationship between your employes and the individual customers. Therefore, the greatest asset to any gas organization is its employes."

The Domestic Sales Plan

The principal paper of Thursday morning's session was read by R. J. Canniff, chairman of the commercial section of the A. G. A., on "The National Cooperative Domestic Sales Plan." Mr. Canniff explained at length the Blue Star campaign and its two-fold objective—to teach the public that gas consuming equipment should be constructed from standard specifications, and to increase the domestic consumption of gas. He set out the plans for the national architectural competition for designs for modern gas-equipped homes. He told of the 360 model homes to be erected in the United States this year, and of the four weeks demonstration to be held in each of twenty-eight cities. This will be followed by local publicity and advertising campaigns, he said, and demonstrations will be given each day of the use of gas for cooking, laundering, house heating, incineration and refrigerating.

"Gas Water Heating" was discussed by R. H. Lewis of the Ruud Manufacturing Company, Pittsburgh, and "Customer Ownership Sales and Salesmen," was the subject of an address by D. O. Daube of Fairbault, Minn.

Two outstanding papers were the features of the afternoon session. W. E. Derwent of the George D. Roper Corporation talked on "Developing Gas Sales by Advertising," and Glenn C. Carnahan, Peoples Gas Light and Coke Company, Chicago, discussed "Selling Gas for Home Heating."

The Banquet

The only entertainment feature of the convention was the banquet held Thursday night in the Hotel Fort Des Moines ball room. After the dinner, C. N. Chubb, toastmaster, introduced John Parker of the Roper Corporation who told several Negro dialect stories in his inimitable way. Clarence "Dutch" Schmidt, insurance man and entertainer extraordinary, who was introduced to the gas men as Senator Jones from Florida proved to be the hit of the evening. His intimate knowledge of the hobbies and failings of a number of the prominent gas executives in the audience formed the basis of a talk which provoked continuous laughter.

H. R. Sterritt, Des Moines, Iowa, 2nd Vice-Pres. and Sec.-Treas. Midwest Gas Association

The speaker of the evening was Philip H. Gadsden, vice-president of the United Gas Improvement Company, Philadelphia, who discussed public relations as the basis of successful conduct of any public utility. "The solution of the problems of public utilities whereby they shall occupy their proper relationship in our social order calls for the sympathetic cooperation of the public, the consumer, the public authorities and the great body of public utility officers and employes," he said.

Home Service

The outstanding paper from the standpoint of general interest on Friday was read by Anna J. Peterson, director of the home department of the Peoples Gas Light and Coke Company, Chicago, on "What Home Service Does for a Gas Company." She warned the gas men that most of the present day appeal to women is directed toward drawing them from the home and her kitchen. She declared, "I believe it is the business of the gas company through its home service department to combat any advertising that shows a tendency to take the woman out of the kitchen.

"Refrigeration" was discussed briefly by C. A. Nash of Davenport. A symposium on "The Use of Bituminous Coal for Generator Fuel" was led by Louis Stein of Minneapolis, and J. F. Trexler of Lincoln talked on "Commercial and Industrial Load."

Two resolutions were adopted. One expressed the appreciation of the fine services of Retiring President C. M. Benedict and his masterful paper on the gas industry's present position and future outlook. It was voted to have the address reproduced in the bulletin of the Iowa Committee on Public Utility Information.

No announcement of the council's probable decision on the meeting place for next year's convention was made, but it was rumored that the association will convene in Minneapolis in 1927.

* * *

A. J. LeTate Becomes President of New Meter Device Company

A. J. LeTate, head of the gas service department of the Adirondack Power and Light Corporation will become the president of the new LeTate-Hassentfull-Kramer Company, which plans to erect a factory here within a few weeks. Mr. LeTate has already resigned from the A. P. and L. Co.

The new company, capitalized at $100,000, will manufacture a device to insure a perfect installation of gas meters. The device is now being used by the Adirondack Power and Light Company. The new concern will also do general machine shop and stamping work.

The other officers in the company are Edward Hassentfull, vice-president, and Eugene Kraemer, treasurer. Machinery totaling $10,000 has already been ordered for the new plant.

Missouri Gas Men to Meet in May

Fine Program Is Planned For Annual Meeting

The annual meeting of the Missouri Association of Public Utilities will be held in Springfield, Ill., on May 3-5, 1926.

The following program has been arranged for the meeting:

Monday, May 3

9-10 A. M.—Registration, Shrine Mosque.

10 A. M.—Invocation.

10.05 A. M.—Address of Welcome, by W. E. Freeman, Mayor of Springfield.

10.30 A. M.—Response and Address, by President Wiley F. Corl.

11 A. M.—Address, by Dr. Stratton D. Brooks, President Missouri State University.

11.45 A. M.—Paper: "Blazing the Trail," by Miss Mary McKelvey, Chairman, Women's Information Committee, Empire Dist. Elec. Co., Joplin, Mo.

2 P. M.—Paper: "Taxes of Utilities," by Mr. Geo. K. Miltenberger, Research Engineer, Union Electric Light & Power Co., St. Louis.

3 P. M.—Paper: "Water Supply in Missouri," by Dr. James Stewart, Secretary and Health Commissioner, Missouri State Board of Health.

4 P. M.—Open Forum. Questions and answers relative to utility problems.

Tuesday, May 4

10 A. M.—Legislative Committee Report, Mr. John C. Hall, Chairman, St. Louis.

10.15 A. M.—Rural Lines Committee Report, Mr. F. S. Dewey, Chairman, Vice-President, Kansas City Power & Light Co.

10.30 A. M.—Public Information Committee Report, Mr. J. B. Sheridan, Sec.-Mgr., St. Louis.

10.45 A. M.—Tax Committee Report, Mr. Frank J. Boehm, Chairman, Vice-President, Union Electric Light & Power Co., St. Louis.

11 A. M.—Paper: "Operation of the Indeterminate Permit in Wisconsin," Mr. Lewis D. Gettle, Chairman R. R. Com. of Wisconsin.

11.45 A. M.—"Modern Transportation," Major R. J. Lockwood, Asst. Mgr., United Railways Co., St. Louis.

Entertainment

Elaborate plans are being made by Mr. and Mrs. Hermann Spoehrer, of St. Louis, and Mr. A. E. Reynolds, of Springfield, for a big entertainment program, which includes: Annual carnival; banquet and dance, tendered by the Springfield Gas and Electric Co.; Golf contests for men and women; contests for ladies, while men are attending the convention sessions, and some other things which you will know about if you go to Springfield.

JOHN DEXTER McILHENNY EULOGIZED

The following resolution was passed at the annual meeting of the Pennsylvania Gas Association at Philadelphia, Pa., April 21, 1926:

John Dexter McIlhenny, born in the City of Columbus, Ga., October 7, 1866, took leave of family and friends on the Twenty-third day of November, 1925, in Philadelphia, Penn., and sought refuge with the Great Ruler of the Universe.

Each day he lived as became a man—righteous and helpful; and, while not of a demonstrative disposition, he made himself respected and honored by all who came in contact with him, and of him it can be truly said he lived that he might feel:

"This day I will live as becomes a man. I will be filled with good cheer and courage. I will do what is right; I will work for the highest; I will put soul into every handgrasp, every smile, every expression—into all my work. I will live to satisfy my other self."

Mr. McIlhenny allied himself with this Association with its formation. As a Member, he took great interest in all its undertakings; expressed on frequent occasions how he enjoyed the fellowship of those interested in the gas industry's welfare, and that he prized his association with the industry as one of the most satisfactory accomplishments of his career.

Therefore, be it RESOLVED: That the Pennsylvania Gas Association, in session assembled, expresses its appreciation of opportunity of association with a life usefully spent and left, as a heritage to those who loved him, an everlasting remembrance that effort gains its just reward.

Pennsylvania Gas Association,
(Signed) Wallace G. Murfit,
President.

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A. G. A. Distribution Conference

The following program has been arranged for the Distribution Conference of the American Gas Association which is to be held in the Hotel Cleveland, Cleveland, Ohio, May 6, 7 and 8.

Pipe Materials—10.15 A. M., May 6, 1926.

1. Stoppages, Corrosion and Renewals—Mains and Service, F. M. Goodwin.

2. Cast Iron vs. Steel Pipe, A. H. Anderson.

3. Protection of Wrought Iron and Steel Mains, James Ashworth.

Distribution Department—General—2 P. M., May 6, 1926.

4. Distribution Safety Organization, W. E. Kemen.

5. Electrolysis—Protection and Mitigation, W. W. Conklin.

6. Street Department Mechanical Equipment, V. C. Hoddick.

6a. Accounting for Mechanical Equipment, M. F. Reeder.

7. Pumping Main Valves, G. D. Dodd.

Fitting Practice—10 A. M., May 7, 1926.

8. Fitting Shop Practice, Joseph Lucena.

9. Appliance Installation and Piping, J. T. White.

10. House Governors, J. K. Crowell.

11. Distribution Wrinkles, J. H. Waldron.

Meter Shop Practice and General—2 P. M., May 7, 1926.

12. Meter Shop Practice, E. S. Umstead.

13. Bureau of Standard Soil Corrosion Investigation, K. H. Logan.

14. Main and Service Deposits—Effect of Dehydration, W. D. Stewart.

15. Welding—Mains and Service, R. H. Whipple.

16. Sub-committee Reports on:
Pipe Joints, H. B. Andersen
Distribution Design, D. P. Hartson.

Louis R. Lemoine Passes Away

Louis R. Lemoine, Chairman of the Board of The United States Cast Iron Pipe and Foundry Company, died early in the morning of April 23, following an illness of several weeks, at the home of his daughter, Mrs. Charles C. Harrison, Jr., "Chuckswood," Villa Nova, Pa., where he had been visiting when stricken with pneumonia.

Mr. Lemoine was born in St. Louis, Missouri, on July 3, 1859. His father was Dr. Edwin Spotswood Lemoine and his mother Kate Ridley Rice. In 1880 Mr. Lemoine married Augusta W. Blow, a daughter of Taylor Blow of St. Louis. Mrs. Lemoine died two years ago.

Mr. Lemoine came to Philadelphia in 1883 and associated himself with R. D. Wood & Company. In 1896 he became vice-president of the McNeal Pipe & Foundry Company, which office he held until that company was absorbed by the United States Cast Iron Pipe & Foundry Company. He then became manager of the Burlington plant and Eastern sales manager of the company. Subsequently he became general manager of the New Jersey Zinc Company with offices in New York, though remaining a director of the United States Cast Iron Pipe & Foundry Company. In 1910 he returned to the United States Cast Iron Pipe & Foundry Company as second vice-president in charge of sales; becoming president in 1911; and from 1923 until his death he was chairman of the board of that company with offices in Philadelphia.

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TO CONSOLIDATE UTILITIES
Plans Outlined in Petitions Filed With the State Commission

Topeka, Kans.—Plans for consolidation of Montgomery County public utilities have been outlined in petitions filed with the state public service commission. Under the program the Southwestern Public Service, Inc., of Independence, takes over the Coffeyville Gas & Fuel Company.

The public service company asked permission to issue $220,000 worth of preferred stock. At the same time the gas and fuel company asked permission to sell its properties to the Independence company.

Interesting Features Planned in Natural Gas Meet

Tulsa Meeting Will Be Well Attended

Tulsa, Okla.—Members of the National Gas Association of America and its affiliated organization, the Natural Gas Supply Men, Inc., will hold their twenty-first annual convention in Tulsa on May 17 to 20. Leaders of the industry from all parts of the United States will be in attendance and will take part in the program. Herbert Hoover, Secretary of Commerce, is on the program for the principal address at the annual banquet on the evening of Wednesday, May 19.

In addition to papers on natural gas producing conditions, sales methods as applied to the natural gas business, public relations topics, laboratory investigations and similar topics, the entire day on Wednesday, May 19, has been set aside for the discussion of such subjects as:

What method would you use in removing water from a producing gas well, keeping the gas waste to a minimum?

How do you provide for slack in a large welded line to care for expansion and contraction?

What, in your opinion, are effective methods of protecting trunk lines from corrosion?

What factors do you consider in determining whether to use an orifice or displacement meter for commercial and industrial consumers?

What stench can be mixed with natural gas that will be helpful in locating leaks, and what are the advantages and disadvantages?

What practical methods are in use for removal of dirt, sand, etc., from pipe lines?

What relation should the rate of production from a gas well bear to its capacity or rock pressure, and what factors affect this relation?

What methods of indicating the condition and rate of decline of gas wells can be used in place of open flow tests?

The convention sessions and the exhibits by the supply men will be held in the buildings of the International Petroleum Exposition, while the convention headquarters and the social activities will be at the new Mayo hotel. The entire Texas building will be occupied by the exhibits, while the convention sessions will be held in the New York building. The supply men will serve lunch at the grounds each noon.

A. W. Leonard of Tulsa, vice-president of the Oklahoma Natural Gas Company and president of the Natural Gas Association of America, is arranging a series of trips to the refineries, gasoline plants, compressor stations and producing oil and gas districts in the Tulsa territory.

From 1,200 to 1,500 natural gas men and their wives are expected to attend the convention. Reduced railroad rates on the certificate plan have been granted for the convention.

Gas Company of Monmouth Asks Stock Issue Approval

Newark, N. J.—Application for approval of the issuance of $300,000 of 7 per cent stock to retire a similar amount of bonds, half of which are 6 per cent and the other half 7 per cent, has been made to the Public Utilities Commission by the County Gas Company, a Monmouth County concern supplying gas to Atlantic Highlands, Keansburg, Keyport, Rumson, Matawan and Freehold. William E. Foster, of counsel, explained that while on the face of the transaction the company appeared to be paying more for the use of the money, it was really taking out a direct fixed charge. The application was taken to conference.

H. D. Whitcomb Honored

H. D. Whitcomb, Newark, N. J., retiring president of the New Jersey Gas Association, was presented with a handsome clock as a token of the appreciation of his work, by the members of the New Jersey Gas Association, at the annual meeting of the Association in Philadelphia, Pa., April 27, 1926.

Home Builders Are Advised to Provide Gas Outlets in Each Room of Their Home

Special attention to the basement, the kitchen and the subject of adequate house insulation is recommended by the gas section of the Wisconsin Utilities Association, to architects and particularly to the man who is planning to build his own home next spring.

"The whole secret of home comfort," says an association bulletin, "is that of planning installation and piping of gas equipment well in advance. This obviates the necessity of tearing out walls and flooring after the house is up.

"With the many new purposes to which gas is being applied in the home today, such as incineration, water heating, refrigeration and house heating, the wise home builder will provide for as many gas outlets as he thinks he will need."

Middlewest Utilities' Earnings

Denver, Colo.—Middlewest Utilities Company's total income during 1925 was $9,960,386, compared to $7,473,464 in 1924, an increase of 33 per cent. After paying of preferred and lien dividends and other charges, the earnings were $15.66 per share on the common, against $14.43 in 1924. Gross earnings of subsidiaries were $60,489,856, an increase of $19,087,349 over the preceding year.

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Sulphate of Ammonia Plant at Macon, Ga.

The Gas Machinery Company of Cleveland, Ohio, has received contract to furnish, deliver and erect sulphate of ammonia equipment in the gas company's plant at Macon, Georgia.

On account of the lack of market for concentrated ammonia liquor, gas companies are now installing sulphate of ammonia equipment in order to get rid of the ammonia liquor, and also obtain a remunerative return therefrom.

The gas company at Macon has in the past simply concentrated their liquor, and concentrated liquor has to be sold promptly at the existing market, whereas sulphate of ammonia can easily be stored and sulphate sold at such times as the market is advantageous.

* * *

Gas Co. to Lay 65 Miles of New Mains

Mt. Clemens, Mich.—The Mt. Clemens Gas Co., will lay 65 miles of new gas mains in Macomb County this summer, thus exercising conditions of the franchises voted the company in the townships of Clinton, Lake, Harrison, Warren and Erin. Extensive plans for the enlargement and improvement of the company's present manufacturing plant will be announced soon by Manager Omar P. Stelle.

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Logan Gas Co. Rates Authorized by Court

Columbus, O.—The Logan Gas Company, by decree of the State Supreme Court, is authorized to charge increased rates which were rejected a few weeks ago by the State Utilities Commission. The company serves approximately seventy-four Ohio municipalities and communities.

The new rates were filed with the commission last November. Claiming the company had no right to file new rates until the commission passed upon a schedule of increased rates filed by the company last year, the commission ordered the November schedule stricken from its files.

The company then appealed to the State Supreme Court, claiming it had a right to file new rate schedules at any time until the commission finally fixed rates for the company.

Upholding the gas company's contention, the Supreme Court has overruled the commission's order, thereby permitting the company to collect, under bond, the latest increased rates until the commission finally determines upon the rates which are to be charged.

In event the final rates are lower than the present schedules, the company will refund to its customers the difference between them and the rates now in effect.

Contracts Awarded

The Public Service Company of Colorado, Denver, Col., has placed contract with The Gas Machinery Company of Cleveland, O., for two 12-ft. water gas sets, complete with waste heat boilers, exhaust steam accumulator and piping.

The contract includes turbo blowers, overhead brick operating floor, exhaust steam piping for generators, air and steam meters and auxiliary equipment.

The Gas Company is erecting a complete new building for the new water gas plant and generator fuel handling equipment from their new by-product gas oven plant now in process of construction.

The Gas Machinery Company of Cleveland, O., has completed the moving, re-erection and reconstruction of the water gas set formerly in the old plant at Iron Mountain, Mich.

This set is now installed complete in the new works, which was built last fall, and will provide the Gas Company with a spare machine to take care of their growing output and maintain the good service given in the past.

New Orleans Public Service, Inc., New Orleans, La., are planning extensive improvements and additions at their plant at New Orleans and have placed the contract with the Western Gas Construction Company, Fort Wayne, Ind., for two 11-ft. reversed air blast sets with two automatic controls.

Among the extensive improvements that the Brooklyn Borough Gas Company at Coney Island, N. Y., is contemplating, is the erection of two cast iron purifiers and two automatic controls for their present water gas sets, contracts for which have been awarded the Western Gas Construction Company, Fort Wayne, Ind.

The Central Power Company of Grand Island, Neb., have placed a contract with the Western Gas Construction Company for two purifiers and a condenser.

The Public Service Company of Northern Illinois have placed a contract with the Western Gas Construction Company, Fort Wayne, Ind., for two cast iron purifiers for Kankakee, Ill., and a steel purifier for Ottawa, Ill.